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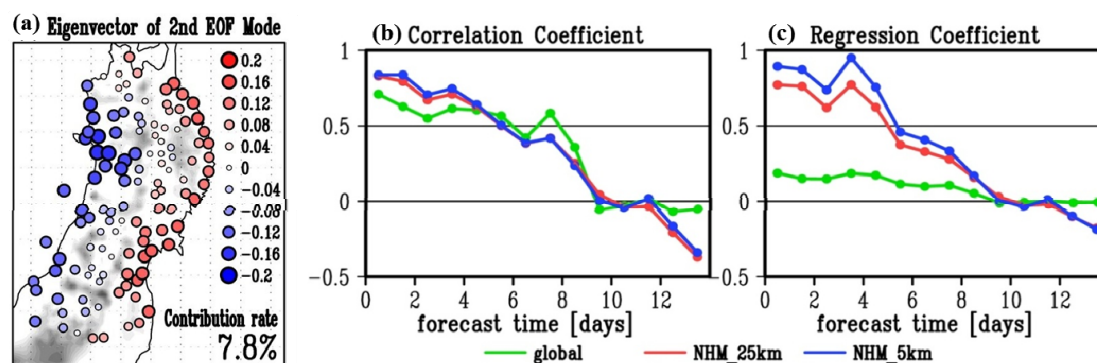


Figure 1. (a) The Yamase mode derived from EOF analysis of the observed surface temperature over northeastern Japan. (b) The correlation coefficients and (c) regression coefficients of the ensemble mean forecasts against observations for the Yamase mode.

- An ensemble dynamical downscaling system for medium-range forecasts of the detailed spatial distributions of the daily mean temperature was assessed using the Japan Meteorological Agency nonhydrostatic models with horizontal resolution of 25km and 5km.
- Ensemble mean downscaling forecasts can extract reliable signals with information about local circulations. The ensemble mean downscaling forecasts can reduce the errors compared to single downscaling forecasts and increase the spreads than the global forecasts used in the downscaling as initial and lateral boundary conditions.
- The predictability depends on the modes derived from an empirical orthogonal function (EOF) analysis of the observed daily mean surface temperature fields over northeastern Japan in summer. For the Yamase mode, the predictable period is 5 days (Fig. 1).
- The ensemble downscaling can predict the amplitudes of the EOF modes more realistically than the global model. For the Yamase mode, the ensemble downscaling predict 90 % of the amplitude, although the global model can predict 20% of the amplitude (Fig. 1).